

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the subject application.

Listing of Claims:

What is claimed is:

1. (Cancelled)

2. (Previously Presented) The position sensor of claim 3, wherein said magnetic field sensor comprises a Hall sensor.

3. (Currently Amended) A non-contact position sensor comprising:

a sensor assembly comprising a housing and at least one magnet disposed in said housing, said magnet disposed adjacent a magnetic field sensor disposed in said housing, said magnetic field sensor being spaced a fixed distance from said magnet and comprising a surface in opposed facing relationship to said magnet with a north-south axis of said magnet generally parallel to said surface, said sensor assembly mounted to a rail of an automobile seat rail system; and

an activating member, said activating member being vertically spaced from a bottom surface of said housing;

said magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to said surface of said magnetic field sensor when said activating member is in a first position relative to said sensor assembly, and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to said surface of said magnetic field sensor when said activating member is in a second position relative to said sensor assembly, said first amount of magnetic flux being greater than said second amount of magnetic flux, ~~wherein no member extends between said magnet and said magnetic field sensor in either of said first and said second position.~~

4. (Original)The position sensor of claim 3 wherein said sensor assembly is mounted directly to said rail.

5. (Original)The position sensor of claim 3 wherein said sensor assembly is mounted to said rail via a bracket.

6. (Currently Amended) A non-contact position sensor comprising:

a sensor assembly comprising a housing and at least one magnet ~~disposed in said housing~~, said magnet disposed adjacent a magnetic field sensor disposed in said housing, said magnetic field sensor being spaced a fixed distance from said magnet and comprising a surface in facing opposed relationship to said magnet with a north-south axis of said magnet generally parallel to said surface; and

an activating member, said activating member being vertically spaced from a bottom surface of said housing and being a rail of an automobile seat rail system;

said magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to said surface of said magnetic field sensor when said activating member is in a first position relative to said sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to said surface of said magnetic field sensor when said activating member is in a second position relative to said sensor assembly, said first amount of magnetic flux being greater than said second amount of magnetic flux ~~wherein no member extends between said magnet and said magnetic field sensor in either of said first and said second position.~~

7. (Cancelled).

8. (Previously Presented)The position sensor of claim 3, wherein said sensor assembly is mounted on a first rail of an automobile seat rail system and the activating member is a second rail of said automobile seat rail system.

9. (Cancelled)

10. (Cancelled)

11. (Currently Amended) A seat position sensor system comprising:

a seat rail system comprising a movable rail and a stationary rail;

a sensor assembly comprising a housing and at least one magnet and a Hall device disposed in said housing, said Hall device being spaced a fixed distance from said magnet and comprising a surface in opposed facing relationship to said magnet with a north-south axis of said magnet generally parallel to said surface, said sensor assembly being mounted to ~~a first of one of~~ said movable rail ~~and or~~ said stationary rail with a bottom surface of said housing being vertically spaced from the other of said movable rail or said stationary rail; and

said Hall device providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to said surface of said Hall device when said movable rail is in a first position relative to said stationary rail and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to said surface of said Hall device when said movable rail is in a second position relative to said stationary rail, said first amount of magnetic flux being greater than said second amount of magnetic flux, ~~and a second of said movable rail and wherein no member extends between said at least one magnet and said Hall device in either of said first position and said second position.~~

12. (Original) The system of claim 11 wherein said sensor assembly is mounted to said movable rail.

13. (Original) The seat position sensor of claim 11 wherein said sensor assembly is mounted to said stationary rail.

14. (Original) The system of claim 11 wherein said sensor assembly is mounted to one of said movable rail and said stationary rail via a mounting bracket.

15. (Cancelled)

16. (Cancelled)

17. (Original)The system of claim 11 wherein one of said movable rail and stationary rail comprises an activating member, said activating member being in a first activating position relative to said sensor assembly when said movable rail is in said first position relative to said stationary rail, and said activating member being in a second activating position relative to said sensor assembly when said movable rail is in said second position relative to said stationary rail, said activating member not extending between said at least one magnet and said Hall device in either of said first and second activating positions.

18. (Currently Amended)A method of sensing vehicle seat position comprising:

providing a sensor assembly comprising a housing and at least one magnet and a Hall device disposed in said housing, said Hall device being spaced a fixed distance from said magnet and comprising a surface in opposed facing relationship to said magnet with a north-south axis of said magnet generally parallel to said surface;

mounting said sensor assembly to a first seat rail with a bottom surface of said housing being vertically spaced from a second seat rail, said Hall device providing an output, said output being a first output corresponding to a first amount of magnetic flux imparted perpendicularly to said surface of said Hall device when said sensor assembly is in a first position relative to a second seat rail and said output being a second output corresponding to a second amount of magnetic flux imparted perpendicularly to said surface of said Hall device when said sensor assembly is in a second position relative to said second seat rail, said first amount of magnetic flux being different from said second amount of magnetic flux, ~~and wherein no member extends between said at least one magnet and said Hall device in either of said first and second positions;~~ and

determining a position of said seat in response to said output.

19. (Original)The method of claim 18 further comprising mounting an activating member to said second seat rail, said Hall device providing a first output when said activating member is in a first position relative to said sensor assembly and a second output when said activating member is in a second position relative to said sensor assembly, said activating member not extending between said at least one magnet and said Hall device in either of said first and second position of said activating member.

20.(Cancelled)